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ABSTRACT

The 1982 job market for college graduates and future prospects are considered and the current conditions are compared to the economic rewards of the 1970s. A moderate improvement in the relative earnings and occupational attainment of college graduates began in the mid-1970s and continued through the early 1980s, but did not equal the pre-1970's level. Paralleling a relative income drop of college graduates is a deterioration of employment opportunities for college graduates. Humanities and social science majors experienced a loss in real starting pay of 20 percent from 1969 to 1975 and 9 percent from 1975 to 1982. Accountants and general business graduates did somewhat less poorly, while chemists and mathematicians gained in the later period. Engineers fared the best from 1970 to 1975. Longitudinal comparisons of income of the same persons or cohorts indicate that both 1966-1981 and 1971-1976 college graduates experienced an improvement in their income as they aged 5 years. However, graduates appear to have had slower increases in earnings relative to high school graduates than has historically been the case. (SW)

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# THE OVEREDUCATED AMERICAN IN THE 1980s

A Report to the National Commission on Student Financial Assistance

Richard B. Freeman, with the assistance of Wiley McCarthy
August, 1982

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## The "Overeducated" American in the 1980s

An important issue in financing higher education is the earnings gained by young people upon graduation and during the school years. The difference between graduate earnings and those of similarly aged non-graduates provides the economic return to investments in college; the level of graduate earnings defines the funds which graduates can call on to repay loans. Earnings during student years provide a potentially important source of funds for financing higher education and are an important offset to the earnings foregone as a result of going to school instead of to full-time work.[1/]

Until the 1970s, college graduates in the U.S. earned considerably more than comparable high school graduates, by enough to yield rates of return to private investments in college on the order of 11-12%.[2/] In the seventies, however, as a result of the rapid growth of the number of graduates relative to demand this traditional advantage of graduates eroded:[3/] the difference between the earnings of college and high school workers fell; many graduates were forced to accept jobs outside the occupations which normally employed college-trained workers: and the rate of return to the investment declined. While there was an overall deterioration in the position of graduates, however, there was a marked differential pattern across fields: graduates in liberal arts and academic areas suffered considerable economic loss while those in business-oriented fields and some technical areas, notably engineering, did reasonably well.

Forecasts of the future position of college graduates given in The Overeducated American and elsewhere[4/] suggested that the deterioration in the position of graduates of the 1970s would level off in the ensuing decade, with advances in their relative position beginning in the early or mid-1980s. These forecasts did not, however, allow for the major recession of the early eighties.

What is the current (1982) position of college graduates in the job market? To what extent has the decline in the economic rewards of the 1970s been maintained in the 1980s? Are there signs of the predicted recovery? What do current forecasts suggest for the remainder of the decade?

I. The Market in the Early 1980s

Available data on the earnings and occupational attainment of college graduates in the early 1980s shows that the downward trend of the 1980s has been arrested; indeed perhaps in part because of the sluggish economy (which affects less educated workers more than highly educated workers) there is some evidence of a modest improvement in the relative position of college grduates beginning in the mid-1970s and continuing through the early 1980s. This moderate improvement has not, however, come close to restoring the college advantage to its pre-1970s level.

Table 1 summarizes data on the changing pattern of college graduates' overall earnings. The earnings of college graduates in recent years is compared to earnings figures for 1974, when the market for college-educated labor was substantially depressed, and to figures for 1969, when the market continued to exhibit the customary strength of the post-World War II period. In order to minimize the impact of cyclic changes on the comparisons, the data relate to the earnings of year-round full-time workers and actual monthly salary rates. Annual income figures which include the income of those without work for part of the year exhibit similar patterns.

Table 1 shows a substantial drop in the position of highly educated workers relative to workers with a high school education, especially among the young, in the period under study. From 1969 to 1974, the income of 25-34 year-old male college graduates relative to high school graduates dropped sharply, by 23 ratio points (1.39 to 1.16). Thereafter, adjusting for the change in Census imputation procedures, the figures show a modest five point rise in relative incomes. The income figures for all men, by contrast, show a bare one point rise from 1974 to 1981 following the

Table 1

College to High School Income Ratios 1969-82

| | 1969 | 1974 | 1981-82 |
|---|---|---|---|
| Income of full-time year-round workers with 4 years of college to income of full-time year-round workers with 4 years of high school | | | |
| 1. Men, 25-34 | 1.39 | 1.16[a]<br>1.20 | 1.25[b] |
| 2. All Men, 25 and over | 1.53 | 1.35[a]<br>1.36 | 1.37[b] |
| 3. Women, 25-34 | 1.42 | 1.29[a] | 1.30[b] |
| 4. All Women, 25 and over | 1.36 | 1.35[a] | 1.31[b] |
| Starting salaries of college men working in industry to average annual earnings | | | |
| 5. Bachelor's | 1.24 | 1.09 | 1.10 [c] |
| 6. Doctorate | 2.18 | 1.78 | 1.80[d] |

[a]Figures in 1974 in the first row are based on old imputation procedure. Those in second row are based on new imputation procedure, as are figures for later years.

[b]1981 figures, forthcoming Current Population Survey, Consumer Income Series P-60.

[c]1981 figures. Bachelor's salaries estimated at $19,084 annual rate. 1982 estimate of average annual wages and salaries obtained by updating figures from U.S. Statistical Abstract 1981, Table No. 686, by percentage change in compensation per hour from Monthly Labor Review, July 1982, Table 28.

[d]1982 figures. Doctorate salaries estimated to be $33,414. 1982 estimate of average annual wages and salaries obtained by updating figures from U.S. Statistical Abstract 1981, Table No. 686, by percentage change in compensation per hour from Monthly Labor Review, July 1982, Table 28.

Table 1 (cont.)

Source: Lines 1-4: Current Population Survey, Consumer Income Series P-60, various editions.
Lines 5-6: Bachelor's from Endicott Report, various editions, using a reported average of salaries with weights .05 accounting, .35 engineering, .40 sales, .20 general business trainees; Doctorate, unweighted average from College Placement Council series. Earnings, elsewhere, from U.S. Department of Commerce Survey of Current Business National Income editions, Bureau of Economic Analysis, Bureau of Labor Statistics.

18 point fall from 1969 to 1974. For women 25-34, the marked downward trend for 1969 to 1974 also appears to have been arrested but not reversed in succeeding years while for all women 25 and over, the anomalous stability from 1969 to 1974 changes to a moderate fall through 1981.

The pattern of declining relative incomes of college workers is also found in the ratio of starting salaries of bachelor's and advanced degrees graduates to average annual earnings. Lines 5 and 6 of Table 1 indicate that the bulk of the income drop took place in the early 1970s, with some upturn following in the latter part of the decade; in the case of doctorates, this recovery was largely due to increased demand and wages for Ph.D. engineers.

Overall, then, the modest recovery from the severely depressed college market of 1974 has not appreciably restored the former income advantage of graduates. The market for graduate manpower remains depressed throughout the decade following the initial drive.

Paralleling the relative income drop of college graduates is a deterioration of employment opportunities for college graduates; unprecedented numbers of graduates, particularly the most recent graduates beggining their careers, have been forced into non-professional jobs, jobs outside of their field of study, or unemployment, none of which recognize the full value of the worker's higher education. Generally speaking, the pattern has been one of exceptional decline in the position of graduates in academic in research fields in contrast to a more modest decline or increase for those in technical-oriented occupations, such as engineering, and computer-oriented science.

Table 2 documents the differential pattern of change in salaries. The figures on Bachelor's starting rates indicate sizeable variation in the rate of decline in the real starting pay of college men from 1969

Table 2

Average Monthly Salary Offers to College Graduates from Business

| | Current dollar salaries[b] | | | Percentage change in constant 1967$[c] | |
|---|---|---|---|---|---|
| | 1969-70 | 1974-75 | 1981-82 | 1970-75 | 1975-82 |
| **Bachelor's** | | | | | |
| Business: | | | | | |
| Accounting | 836 | 980 | 1537 | -16 | -11 |
| General | 721 | 847 | 1482 | -15 | - 1 |
| Engineering[a] | 864 | 1116 | 2105 | - 7 | 7 |
| Humanities and Social Science | 700 | 781 | 1251 | -20 | - 9 |
| Chemistry | 825 | 962 | 1777 | -16 | 5 |
| Mathematics | 794 | 924 | 1758 | -16 | 8 |
| Computer Science | — | 977 | 1881 | — | 9 |
| **Master's** | | | | | |
| MBA (after non-technical undergraduate degree)[d] | 1044 | 1250 | 1942 | -14 | -12 |
| Engineering[a] | 1007 | 1246 | 2330 | -11 | 6 |
| Chemistry | 978 | 1118 | 1970 | -16 | 0 |
| Mathematics | 959 | 1138 | 2109 | -15 | 7 |
| Computer Science | -- | 1169 | 2178 | — | 6 |
| **Doctorate** | | | | | |
| Engineering[a] | 1353 | 1550 | 2863 | -18 | 7 |
| Chemistry | 1278 | 1503 | 2642 | -15 | 0 |
| Mathematics | 1421 | 1523 | 2573[e] | -23 | 0 |

[a]Unweighted average of all fields.

[b]2969-70 and 1974-75 figures for BAs relate to males; 1981-82 figures relate to men and women. 1969-70 figures for Masters and Doctorates relate to men; later figures relate to men and women.

[c]Deflator: 1969-70, 116.3; 1974-75, 161.2; 1981-82, 284.3.

[d]One year or less of full-time non-military employment.

[e]Based on 1981 because 1982 figures from too small a sample.

Source: Digest of Educational Statistics 1972, p. 144, Tables 153-154.
The Condition of Education 1979, p. 208, Table 5.17.
CPS Salary Survey, March 1982.
Digest of Educational Statistics, 1978, p. 179

to 1975 and from 1975 to 1982. Humanities and social science majors experience a loss in real starting pay of 20% in the first period and 9% in the second period. Accountants and general business graduates did somewhat less poorly, while chemists and mathematicians gain in the 1975 to 1982 period. Engineers fare the best from 1970 to 1975 and in the latter half of the decade are barely surpassed by graduates in mathematics and computer science. As a result of the 1969 changes, the ratio of the starting pay of BS engineers to that of Bachelor's humanities and social science majors was 1.23; in 1982 it is 1.68. Computer science represents an attractive opportunity too, with both Bachelor's and Master's graduates receiving salary increases from 1975 to 1982.

The rates of change for Ph.D. and Master's graduates tell a similar story about the locus of the decline by the degree level and field. On average, from 1970 to 1982, Ph.D. and Master's starting pay fell by nearly 20%. Within the same field, the salary of doctorate and Master's personnel declines more rapidly than that of Bachelor's graduates, save for MBA's, for whom the rates of change are similar to those for Bachelor's. The particularly large drop in the real pay of Ph.D. and MA or MS workers significantly cut their premium over Bachelor's graduates and hence lowered the rate of return to postgraduate training. In the 1970s, a Ph.D. engineer earned 57% and a MS engineer 17% more than a BS engineer in the specialty. In 1982, the advantage to the Ph.D. or MS has fallen to 36% and 11% respectively. Across fields, engineering and computer science did relatively well toward the end of the 1970s, while chemistry held even. Recipients of Ph.Ds in mathematics continued to do exceptionally poorly, although Bachelor's and Master's mathematicians have tended toward recovery.

College placement officers concerning themselves with the drastically different markets for various disciplines provide support for the divergent patterns in the data: "...what's bad is getting worse... in general the market in technical areas has been the best that it's been in years...

Table 3

Measures of the Employment Opportunities of College Workers, 1969-1982

| | 1969 | 1975 | 1979 | 1982 | 1969-82 (Change in percentage points |
|---|---|---|---|---|---|
| 1. Proportion of workers with 4 or more years of college in professional jobs: | | | | | |
| Males | .61 | .54 | .52 | | |
| 2. Proportion of workers with 4 or more years of college in professional jobs: | | | | | |
| Females | .81 | .70 | .65 | | |
| | 1962-68 | 1969-76 | | 1976-82 | |
| 3. Ratio of additional college graduates in professional jobs to additional college graduates | .73 | .46 | | | |

Source: Lines 1,2: U.S. Department of Labor, Educational Attainment of Workers, March 1969 (Special Labor Force Report, 125, Table I, p. A-28) and Special Labor Force Report 186, Table I, p. A-19, and Special Labor Force Report 240, Table 5, p. A-19, and Special Labor Force Report 2.
Line 3: U.S. National Center for Educational Statistics, Condition of Education, Table 1.11, updated.

(whereas) for the kid coming out of a general studies background the market is flat." In spring 1981 the New York Times summarized the pattern: "Engineers are being hungrily wooed with salary offers reaching $30,000 a year, while liberal arts majors are scraping to find openings that pay $12,000."

We conclude that the downturn in the college market place was substantially concentrated in certain areas and in certain types of degrees as opposed to others.

Table 3 documents the shift of college graduates into occupations for which degrees are not normally viewed as relevant or necessary. This table compares the types of jobs and difficulties in obtaining positions in 1969 with the situation in 1975, 1979, and 1982. Lines 1 and 2, which give the most comperhensive statistics on the employment of graduates, show that the proportion employed in the traditional occupational area of the college-educated, the professions, fell sharply in the period, by 10 percentage points for men, and 20 percentage points for women.

The data on employment of college graduates is organized in line 3 in a different fashion to focus on the likely occupations of the new cohorts of graduates. From 1962 to 1968, the number of college graduates in the labor force grew by 4,017,000. The number obtaining professional jobs grew by 2,915,000--implying that 73% of the additional college workers obtained professional employment. From 1969 to 1976, by contrast, when the number of graduates grew by 8,096,000, the number obtaining professional jobs grew by just 3,751,000--a 46% rate of professional employment of graduates. From 1976 to 1982, the number of graduates in the labor force grew by 5,353,000, but the number of graduates finding professional positions grew by 2,292,000, producing a 43% rate of employment of new graduates in professional jobs.

Table 3

Measures of the Employment Opportunities of College Workers 1969-1982

| | 1969 | 1975 | 1979 | 1982 | 1969-82 (Change in percentage points |
|---|---|---|---|---|---|
| 1. Proportion of workers with 4 or more years of college in professional jobs: | | | | | |
| Males | .61 | .54 | .52 | .51 | -.10 |
| 2. Proportion of workers with 4 or more years of college in professional jobs: | | | | | |
| Females | .81 | .70 | .65 | .61 | -.20 |
| 3. Ratio of additional college graduates in professional jobs to additional college graduates | 1962-68 | 1969-76 | 1976-82 | | |
| | .73 | .46 | .43 | | -.30 |

Source: Lines 1, 2: U.S. Department of Labor Educational Attainment of Workers, March 1969 (Special Labor Force Report 125, Table I, p. A-28) and Special Labor Force Report 186, Table I, p. A-19, and Special Labor Force Report 240, Table 5, p. A-19, updated by BLS computer prints for March 1982.
Line 3: U.S. National Center for Education Statistics, Condition of Education, Table 1.11, updated.

## II. The Longitudinal Progress of Graduates

Thus far, we have examined changes in the position of workers of the same age/experience. It is also important to analyse how the same persons or cohorts fared in the job market. There are two reasons for this. First, while it is generally agreed that the economic advantage of college graduates lessened in the 1970s, some have suggested that the patterns in Section I exagerrate the extent of change because graduates might obtain especially large salary increases in ensuing years, recouping their losses. If this were the case, the change in the lifetime income/rate of return of college workers would be less than the changes in the starting salary/earnings early in life. Second, since much of the college advantage comes through rapid increases in earnings in the five (ten) years immediately after graduation, any assessment of the magnitude of the downturn should also examine what happened to the traditional rise in the college: high school income ratio in the period.

Is there any evidence that graduates recouped their income losses in the period as they advanced in their careers? Did the graduates whose initial relative salaries fell below the relative salaries traditionally obtained by graduates get faster or slower increases in relative earnings in ensuing years?

Table 4 analyses these questions by comparing the life cycle growth of earnings of college relative to high school men in the National Longitudinal Survey ("Parnes Survey"). It records regression estimates of the growth of the college to high school premium of workers of the same age (years of experience) from 1966 to 1971, when the college market was strong to the comparable growth in the college to high school premium from 1971 to 1976, the period of sizeable deterioration in the college market. The changes are measured in ln points (logarithms base e) because the figures

come from standard log earnings equations.

The data show that in both 1966-1981 and 1971-76 college graduates enjoyed an improvement in their income position as they aged five years. This improvement suggests the traditional greater increase in the salaries of college than of high school men over the life cycle. However, as the figures in the final column of Table 4 show, there is no evidence that the graduates who entered the depressed market in the 1970s obtained more rapid increases than those in the past: to the contrary, it appears that the depressed market flattened the traditional life-cycle earnings trajectory of college graduates relative to that of high school graduates, particularly in weekly earnings. For example, whereas from 1966 to 1975 college workers with 0-2 years of experience enjoyed a .12 increase in their earnings advantage over high school graduates with 0-2 years of experience, as the two groups aged five years, the comparable improvement for starting graduates from 1971 to 1976 was just .03 ln points.

Table 5 pursues the growth of the relative earnings of college graduates over the life cycle further by comparing the change in relative life cycle earnings from 1973 to 1978 to the historical pattern using cohort data from the Current Population Survey. What it does is compare for a given age cohort how the ln of the ratio of the earnings of college to high school men changed as the cohort grew five years older. It finds, consistent with Table 4, that the college men whose starting earnings were depressed in the market did not recoup their traditional income advantage as they aged, with more than historical increases in their life cycle earnings trajectory relative to high school graduates, though there is considerable variation in the patterns.

Three other studies have examined longitudinal or cohort progress of college graduates and other workers in the period studied. Raisian and Donovan analysed longitudinal changes in the Michigan March Survey of Income Dynamics. Berger examined both CPS and NLS data, Rumberger analysed

Table 4

Change in the Relative Earnings of College Graduates in a Longitudinal Panel, 1971-1976 Compared to 1966-71

| | Growth of Earnings of College Graduates Relative to High School Graduates over Five Year Period (in ln points) | | Change in Growth of College Earnings Advantage Over Life Cycle |
|---|---|---|---|
| | 1966-71 "Boom Period" | 1971-76 "Bust Period" | |
| Workers aged 18-24 in initial year[a] | | | |
| Weekly Earnings | .27 | .10 | -.17 |
| Annual Earnings | .22 | .19 | -.03 |
| Workers with 0-2 years of experience | | | |
| Weekly Earnings | .12 | .03 | -.09 |
| Annual Earnings | .03 | .04 | .01 |

[a] 19-25 for 1971.

Source: Calculated from National Longitudinal Survey, as reported in R. Freeman, "Career Patterns of College Graduates in a Declining Job Market," NBER Working Paper No. 750, Table 7.

Table 5

Changes in the Relative Earnings of Cohorts of College Graduates, 1973-78 vs. Historical Patterns

| | 1973-78 (77)[a] | Historical Pattern | Effect of Depressed Market |
|---|---|---|---|
| **Cohort with Given Age in 1973** | | | |
| **18-24** | | | |
| Weekly Earnings (May CPS) | -.20 | .17 | -.37 |
| Weekly Earnings (March CPS) | -.13 | .17 | -.30 |
| Annual Earnings (March CPS) | -.08 | .17 | -.25 |
| **25-29** | | | |
| Weekly Earnings (May CPS) | .04 | .07 | -.03 |
| Weekly Earnings (March CPS) | .06 | .07 | -.01 |
| Annual Earnings (March CPS) | .16 | .07 | .11 |
| **30-34** | | | |
| Weekly Earnings (May CPS) | .04 | .04 | -.08 |
| Weekly Earnings (March CPS) | .05 | .04 | .01 |
| Annual Earnings (March CPS) | .05 | .04 | .01 |
| **Cohort with Given Experience in 1977** | | | |
| **0-5** | | | |
| Weekly Earnings (May CPS) | -.09 | -.08 | -.01 |
| Weekly Earnings (March CPS) | -.20 | -.08 | -.12 |
| Annual Earnings (March CPS) | -.08 | -.08 | .00 |
| **6-10** | | | |
| Weekly Earnings (May CPS) | -.11 | -.05 | -.06 |
| Weekly Earnings (March CPS) | -.05 | -.05 | .00 |
| Annual Earnings (March CPS) | -.04 | -.05 | .01 |

[a]March tapes 1972-77; May tapes 1973-78.

Source: Calculated from March and May CPS tapes, with historical pattern from Current Population Reports, as given in R. Freeman, "Career Patterns of College Graduates in a Declining Job Market," NBER Working Paper No. 750, Tables 2 and 6.

NLS data. Despite differences in questions asked and in analytic procedures, the picture which emerges from these investigations is consistent with that found in our analysis.

Raisian and Donovan's regressions show that college graduates had slower income gains than high school graduates, by between 1.2 and 1.5 percentage points per year in the period considered. They also found the difference between the rates of increase diminished toward the end of the period, though college graduates still had smaller rates of gain. This is consistent with our evidence on the deceleration of the decline in the college market.

Berger reports trend rates of increase that are markedly lower for college than high school graduates (or other workers) in the NLS and CPS data sets. He attributes the difference largely to cohort size effects: the increased supply of college graduates relative to high school graduates and the greater impact of that change in supply on the earnings of college as opposed to less educated workers.

Rumberger's regressions for the NLS in 1971 and 1976, while not limited to the same persons on the file, yield results which appear to be stronger than ours, for he finds noticeable declines in the income advantage of college over high school workers in hourly and annual earnings between the two periods in contrast to our findings of an increased advantage at a smaller rate. If we recalculate our analyses so that we no longer focus on the same persons we obtain results comparable to his. By including persons in 1976 who were not in the 1971 sample, such a cohort analysis adds relatively many inexperienced and thus low wage workers in the latter sample, reducing the college income advantage obtained from a sample of persons working in both years.

In sum, the deterioration in the economic position of college graduates relative to high school graduates is not a temporary phenomenon, which has been reversed by more rapid life cycle earnings gains by graduates. Instead, graduates appear to have had slower increases in earnings relative to high school graduates than was historically the case.

III. Cost of Higher Education and Student Earnings

From the perspective of economic analysis the decision to invest in postsecondary education does not depend solely upon the dollar benefits to be gained after graduation but, rather, upon those benefits compared to the cost of that education. The potential college student bases his or her decision not on the absolute return to his or her college investment but on the rate of return to the funds used to finance higher education. Accordingly, we have also examined various measures of the costs of higher education and compared them to the income of college men 25-34 (in this case the income of all men, not just those with full-time year-round jobs) from 1969 to 1981. These comparisons are given in Table 6, with all of the figures deflated for comparability by the consumer price index.

The table tells a surprising and rarely recognized story about the changing incentive to enroll in college. Lines 1(a) and 1(b) show a rough stability/modest decrease in the real cost of college in the 1970s; tuition and feew in public colleges decreased by 5.3%, while tuition and fees in private institutions fell by 3.7%, and the total cost per pupil decreased by 2% in the 1969 to 1981 period. The stability/slight decrease in the cost of college reflects the fact that tuition and related charges, while increasing rapidly in many terms, did not grow as fast as other prices.

Lines 2(a) to 2(c) examine the benefit/returns aspect of the college investment decision. They record the differences between the income of college and high school graduates. The data show a marked drop in the absolute real different between young male college and high school workers over the entire period, but a rise in the absolute real differential during the 1974-81 period. Whereas in 1969 25-34 year-old college men earned $2403 more than similarly aged high school graduates, in 1974 their advantage

Table 6

Costs of Higher Education versus
Earnings of Young Graduates, in Consistent 1967 Dollars

| | 1969 | 1974 | 1978 | 1981 | Percentage Change 1969-81 | Percentage Change 1974-81 |
|---|---|---|---|---|---|---|
| 1. Costs of Higher Education | | | | | | |
| a. Total tuition, room and board, over four years | | | | | | |
| public | 1034 | 1055 | 1037 | 979[a] | -5.3 | -7.2 |
| non-public | 2204 | 2137 | 2111 | 2123[a] | -3.7 | -0.7 |
| b. Current fund Expenditures per Full-Time Equivalent Student | 2685 | 2664 | 2815 | 2566[c] | -4.4 | -3.7 |
| 2. Income of Men, 25-34 | | | | | | |
| a. College graduate | 9815 | 8350 | 8364[b] | 7367[b] | -24.9 | -11.8 |
| b. High school graduate | 7407 | 7267 | 6925[b] | 5820[b] | -21.4 | -19.9 |
| c. Differences | 2408 | 1083 | 1440 | 1547 | -35.8 | 42.8 |

[a] 1980.

[b] Adjusted for change in Census imputation procedure by multiplying college incomes by .973 and high school incomes by .998 so that incomes post-1974 are comparable to those pre-1974. For data underlying this adjustment see Freeman, 1980.

[c] 1980.

Source: Line 1(a): National Center for Education Statistics, The Condition of Higher Education, 1982 Edition, Table 4.17 and 1978 Edition, Table 5.13.
Line 1(b): 1974 to 1980 obtained by dividing Condition of Education, 1982, Table 4.14 by full-time equivalent enrollment in Projection of Education Statistics 1958-1989, Table 12, with 1980 estimated by author.
Line 2: U.S. Bureau of Census, Consumer Income Series P-60.

was just $1083 but by 1980, the advantage had recovered to $1547, making a 36% drop since 1969 and a 43% increase since 1978. As in other comparisons, then, the major portion of this decline occurred in the early 1970s, while the position of young male college graduates improved somewhat after the mid-1970s.

Comparing the changes in cost with changes in the real absolute differences in earnings, we see that the return to college investments fell sharply from 1969 to 1974 but recovered somewhat through 1981, when costs remained steady but the dollar advantage rose. What these figures show is that the economic decline of the late 1970s so depressed the real earnings of high school graduates that the college dollar advantage increased. This increase is, from an economist's perspective, one of the factors maintaining enrollments in recent years: since in part it reflects the high unemployment of young high school workers it may be a temporary phenomenon, assuming the economy recovers in the near term. Compared to 1969, however, the income advantage of graduates has worsened relative to costs, in real deflated dollars.

An additional labor market factor which has operated to "improve" the economic situation of graduates is the continued increase in student labor participation. As can be seen in Table 7, despite the current poor job market, student participation and employment rates have risen in the 1970s. While the real earnings of students have presumably fallen in the period, the increased participation may provide an increasing source of funds for financing higher education. Unfortunately, we currently lack a consistent series on the earnings of college students, though such could be tabulated from the Current Population Survey. For the present all that can be said is that students are continuing to earn money by working in the job market while attending college.

Table 7

Student Labor Participation, Selected Years[a]

| Year | Student Labor[b] Force Participation Rates (%) | | | Student Employment/Population | | |
|---|---|---|---|---|---|---|
| | Male | Female | Both | Male | Female | Both |
| 1965 | 42.3 | 33.2 | 38.8 | 38.9 | — | — |
| 1970 | 46.5 | 43.6 | 45.3 | 41.1 | 39.6 | 40.5 |
| 1975 | 47.0 | 48.0 | 47.5 | 40.9 | 42.3 | 41.5 |
| 1980 | 51.9 | 52.5 | 52.2 | 46.1 | 47.7 | 46.9 |

[a]Statistics are for the civilian noninstitutional population and are from October of each year for students.

[b]These figures include only students aged 18-24.

Source: Employment and Training Report of the President, 1976, pp. 269-72, and Employment and Training Report of the President, 1981, p. 119 and pp. 191-94.

In sum, comparisons of the costs of college with the difference in earnings of graduates tells a story of change similar to that given in Section I: a decline in the economic reward to college relative to the cost in the early 1970s, which was arrested in the latter part of the decade, and partially reversed in the late 1970s-early 1980s when the real earnings of young high school graduates fell more than did those of young college graduates.

## IV. Conclusion: Understanding the Patterns and What the Future May Hold

We have seen in preceding sections that the college job market underwent extensive deterioration in the 1970s, which has roughly bottomed out in the early 1980s. The Overeducated American has remained "over-educated" in terms of relative earnings and occupational position.

The patterns of change in college graduate earnings in the period tell us several things about the operation of the college job market which should be borne in mind in policy evaluations.

1. The earnings of college graduates relative to those of high school graduates are reasonably responsive to supply and demand conditions.

2. There is substantial variation in the position of graduates across fields. There is no market for college-educated workers; rather there are markets for different types of college-educated specialists.

3. In a period of poor overall economic performance, the real earnings of young graduates tend to fall sharply, with obvious problems in terms of repaying financial committments.

With respect to what the future may hold, my forecasts, and those of others, suggest that sometime in the 1980s the market will indeed rebound for graduates, as the falling supply of new college workers, due in part to the shrinkage of the youth population, affects market conditions. The bottoming out of the deterioration of the market in the early 1980s suggests that this scenario is still predicted for the future.

## Bibliography

Berger, Mark C. "The Effect of the Baby Boom on the Earnings Growth of Young Males," Cambridge, Mass.: National Bureau of Economic Research Conference Paper No. 98, February 1981.

Freeman, Richard B. The Overeducated American. (New York: Academic Press, 1976).

_____. "The Decline in Economic Rewards to College Education," Review of Economics and Statistics, 59 (February 1977).

_____. "Overinvestment in College Training?" Journal of Human Resources, 10 (Summer 1975).

_____. & J. Herbert Holloman. "The Declining Value of College Going," Change (September 1976).

Jencks, Christopher. "Limited Degrees," comment in Working Papers for a New Society. (Summer 1976).

Raisian, John & Elaine Donovan. "Patterns of Real Wage Growth, 1967-1977: Who Has Prospered?" BLS Working Paper 104, November 1980.

Rumberger, Russell W. "The Declining Labor Market Opportunities for College Graduates," Career Thresholds: Ten Years of Labor Market Experience for Young Men. Center for Human Resources, Ohio State University, Vol. 7, October 1980.

Smith, James P. & Finis Welch. "The Overeducated American? A Review Article," Santa Monica, CA: Rand Corporation. 1978.